

Fig. 1 A

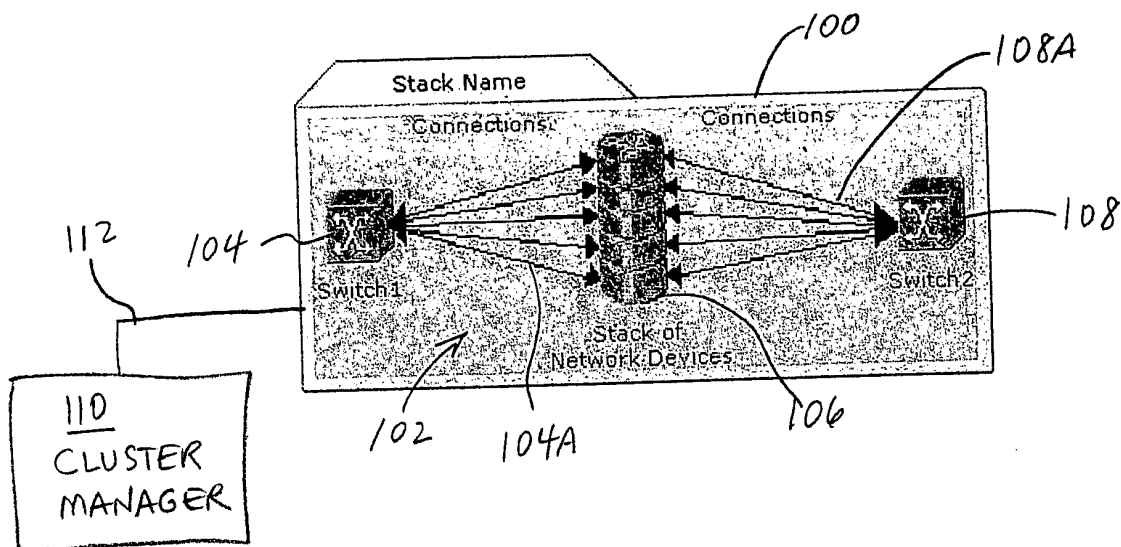


Fig. 3

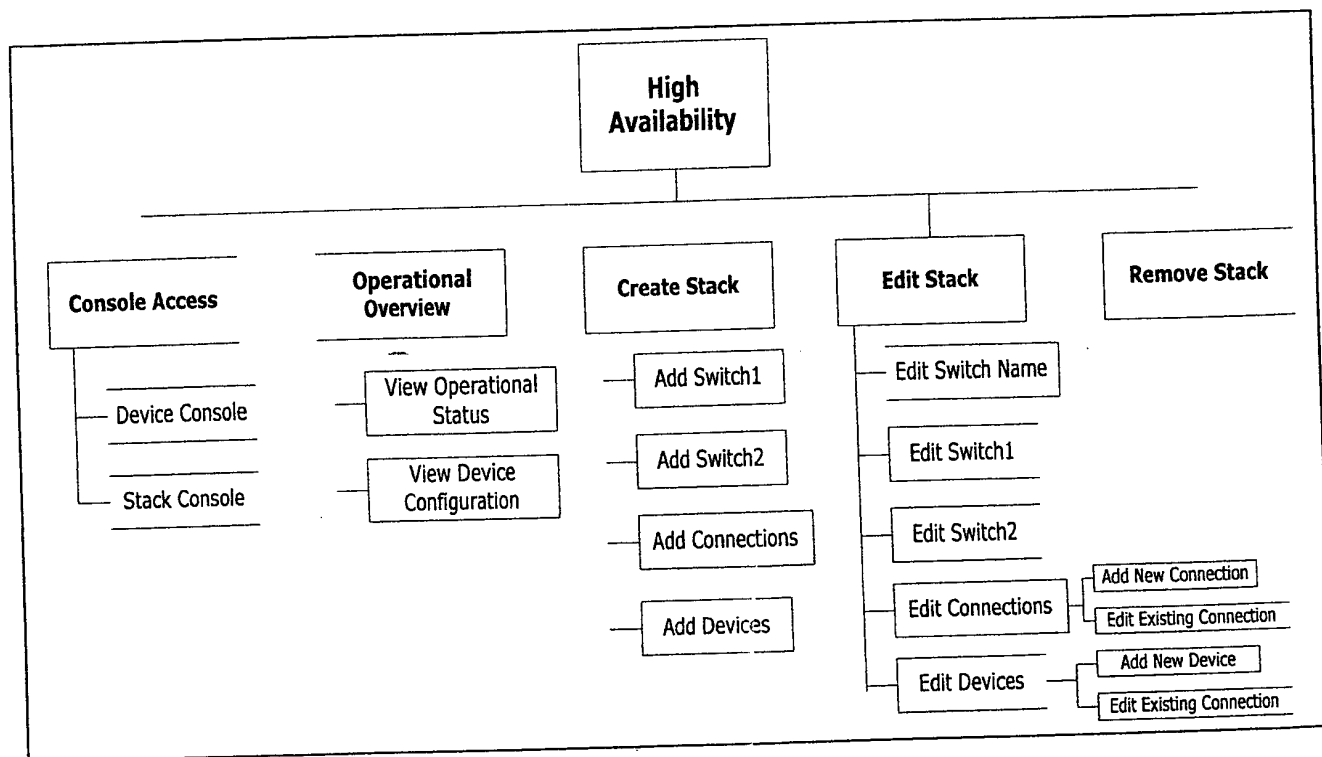


Fig. 1B

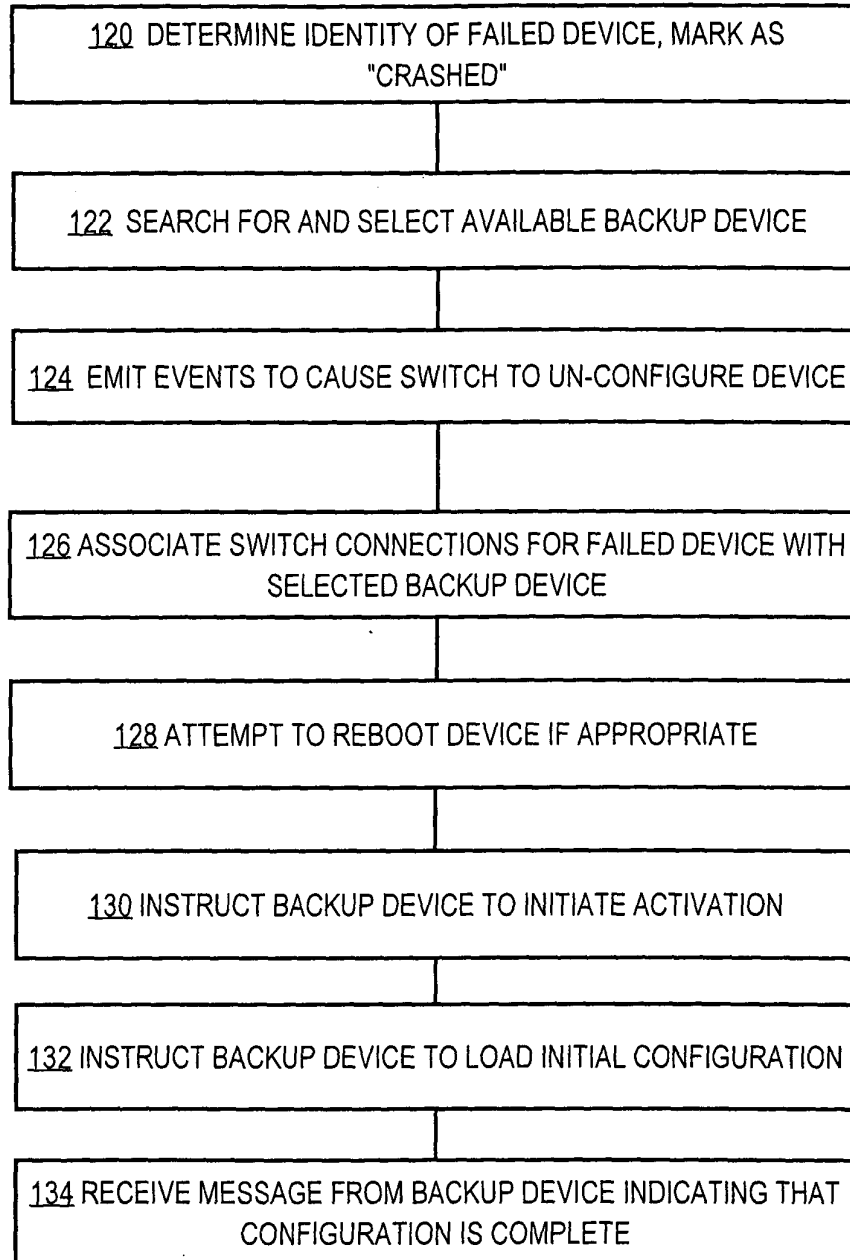


Fig. 1C

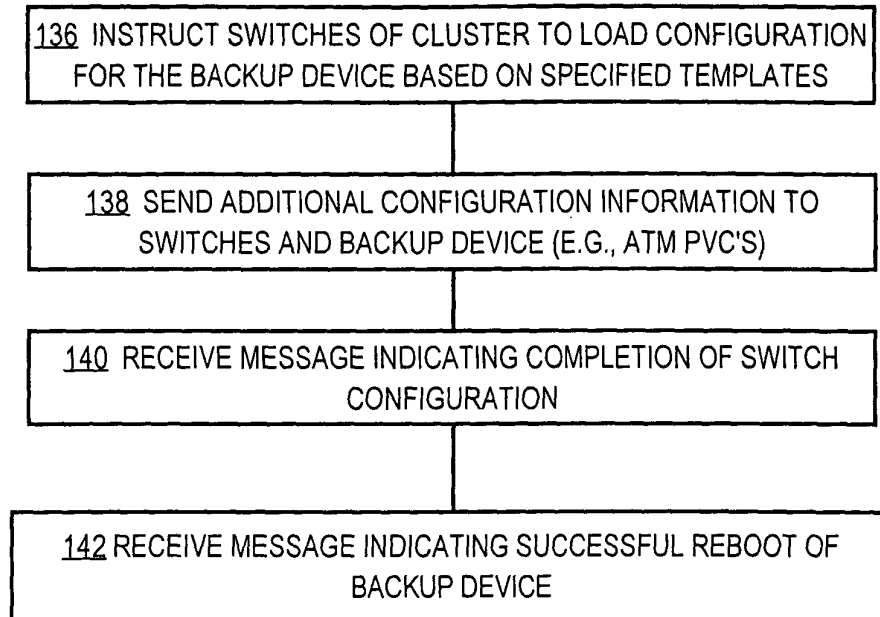
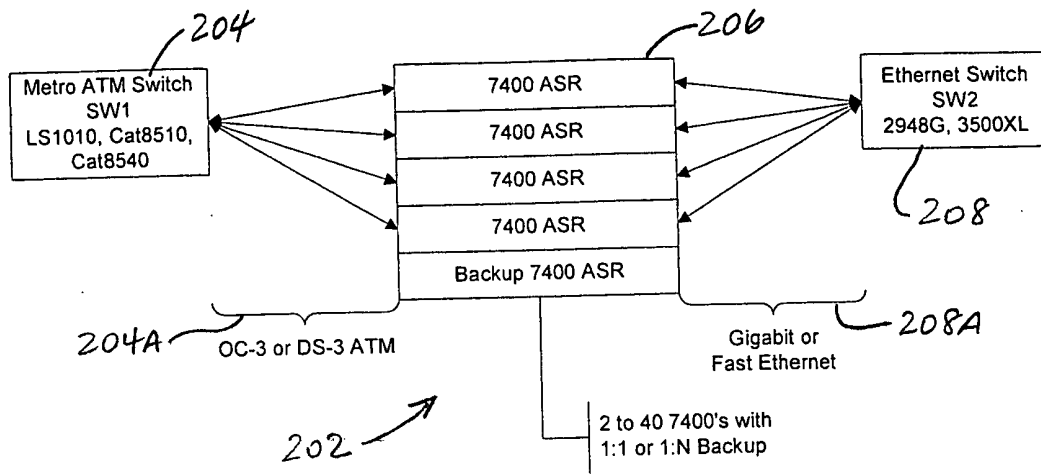


Fig. 2



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

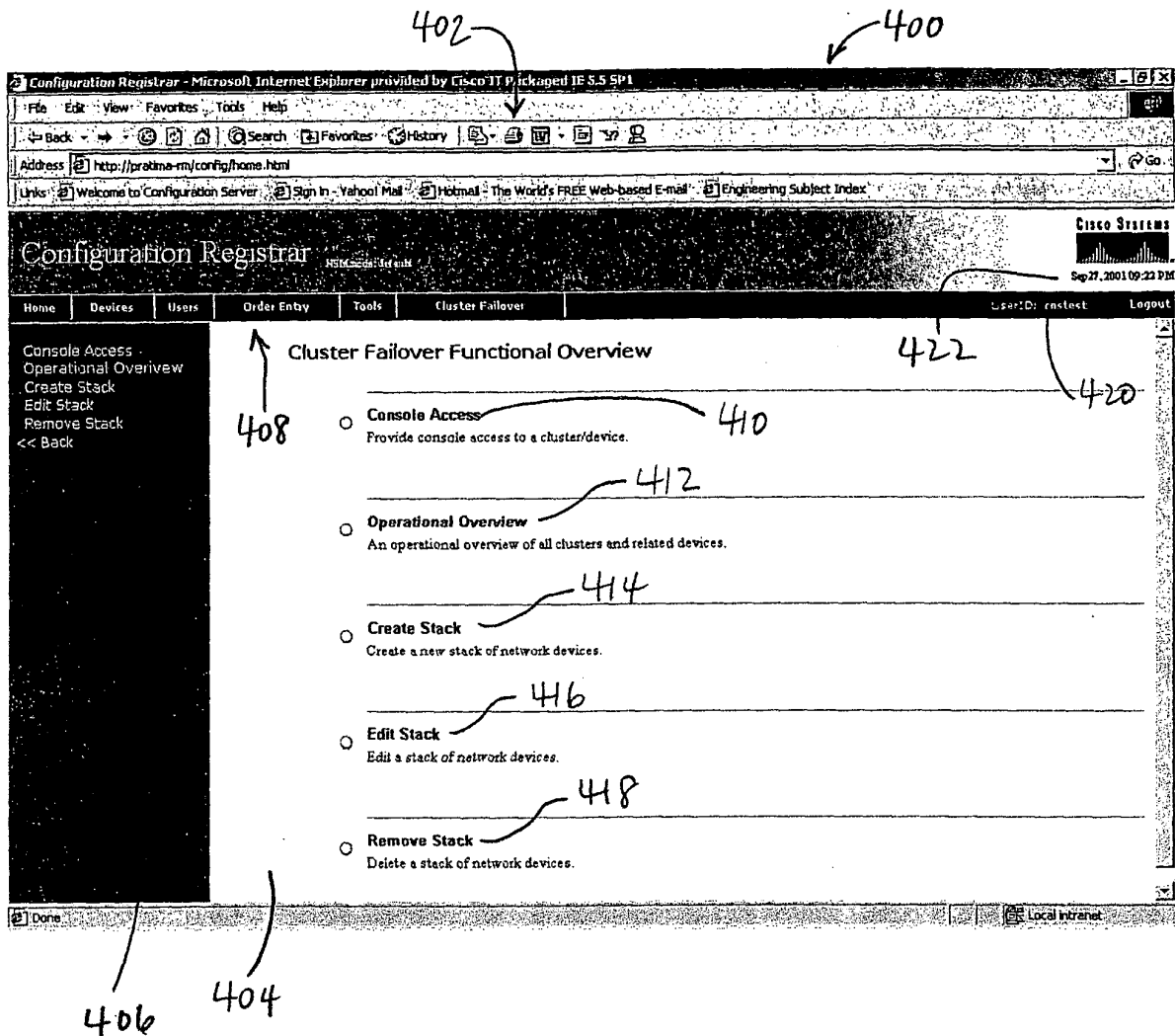
Docket No. 50325-0806

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Date of Deposit: August 5, 2003

Fig. 4



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

Docket No. 50325-0806

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Fig. 5

Configuration Registrar - Microsoft Internet Explorer provided by Cisco ITPackaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History Print View Source

Address http://prattm-m/config/home.html

Links Welcome to Configuration Server Sign in - Yahoo! Mail Hotmail - The World's FREE Web-based E-mail Engineering Subject Index

Configuration Registrar

Cisco Systems
Sep 28, 2001 06:03 PM

Home Devices Users Order Entry Tools Cluster Failover UserID: cnstest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Creating Stack

Please enter a stack name to begin creating a stack. Click "Ok" to add switches, devices, and connections to this stack.

Stack Name (required)	Stack1
Mechanism for Assigning Connections	<input checked="" type="radio"/> Load balancing <input type="radio"/> Fill each device
Number of Devices Reserved as Backup (required)	2

☒ Reboot failed devices and place in backup pool after failover.

Ok Reset

502

504

506

508

510

512

514

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stampler, et al.

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Fig. 6

Configuration Registrar - Microsoft Internet Explorer provided by Cisco IT Packaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://prtime-rn/config/home.html

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Configuration Registrar

Cisco Systems
Sep 28, 2001 06:03 PM

Home Devices Users Order Entry Tools Cluster Failover UserID: knstest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Stack: Stack1

Please select a component in the imagemap above or in the checklist below to add or edit. Each stack object consists of the following components:

1 Stack Name: Stack1	Activate
2 Switch1	Activate
3 Switch2	Activate
4 Network Devices	Activate
5 Connections	Activate

607 609 606 602 619

Activate Save Exit

Done Local Intranet

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

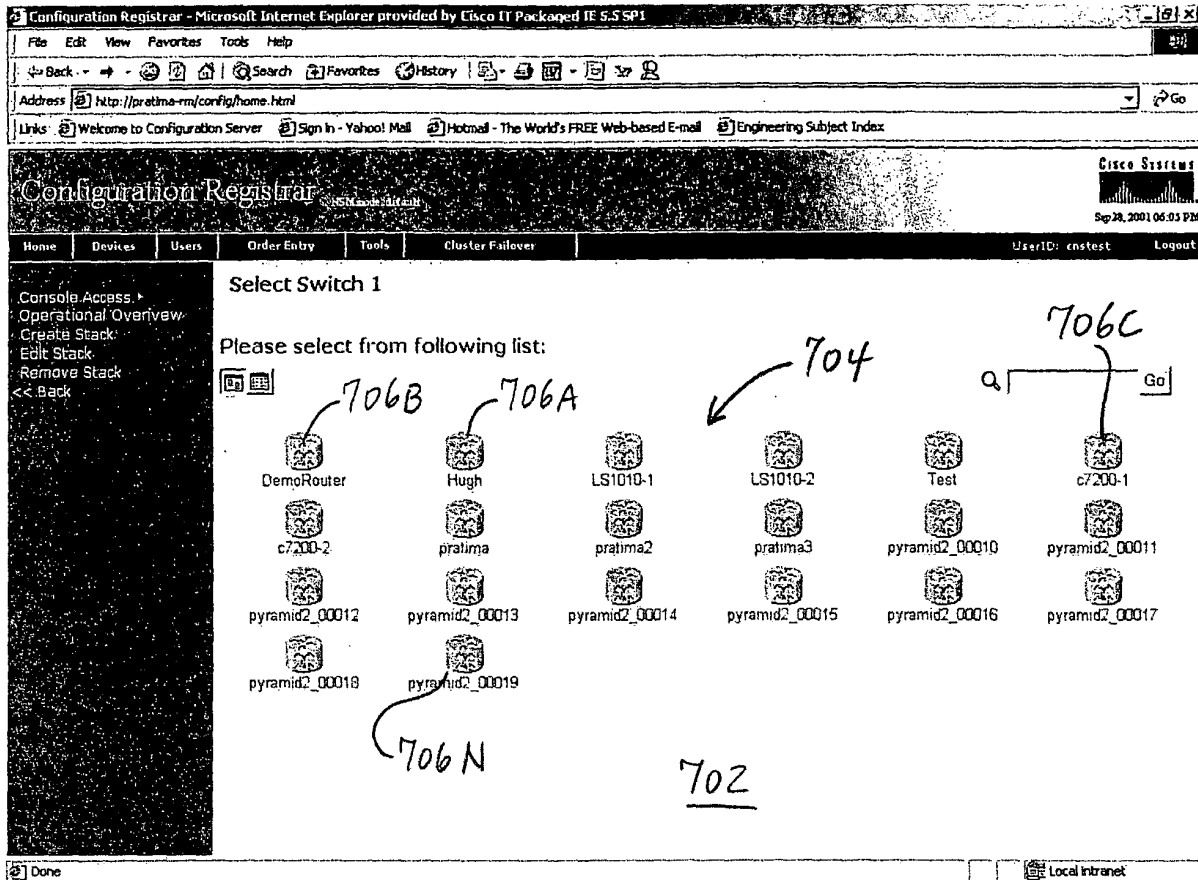
Docket No. 50325-0806

Express Mail Label No.: EV323354662US

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Date of Deposit: August 5, 2003

Fig. 7



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

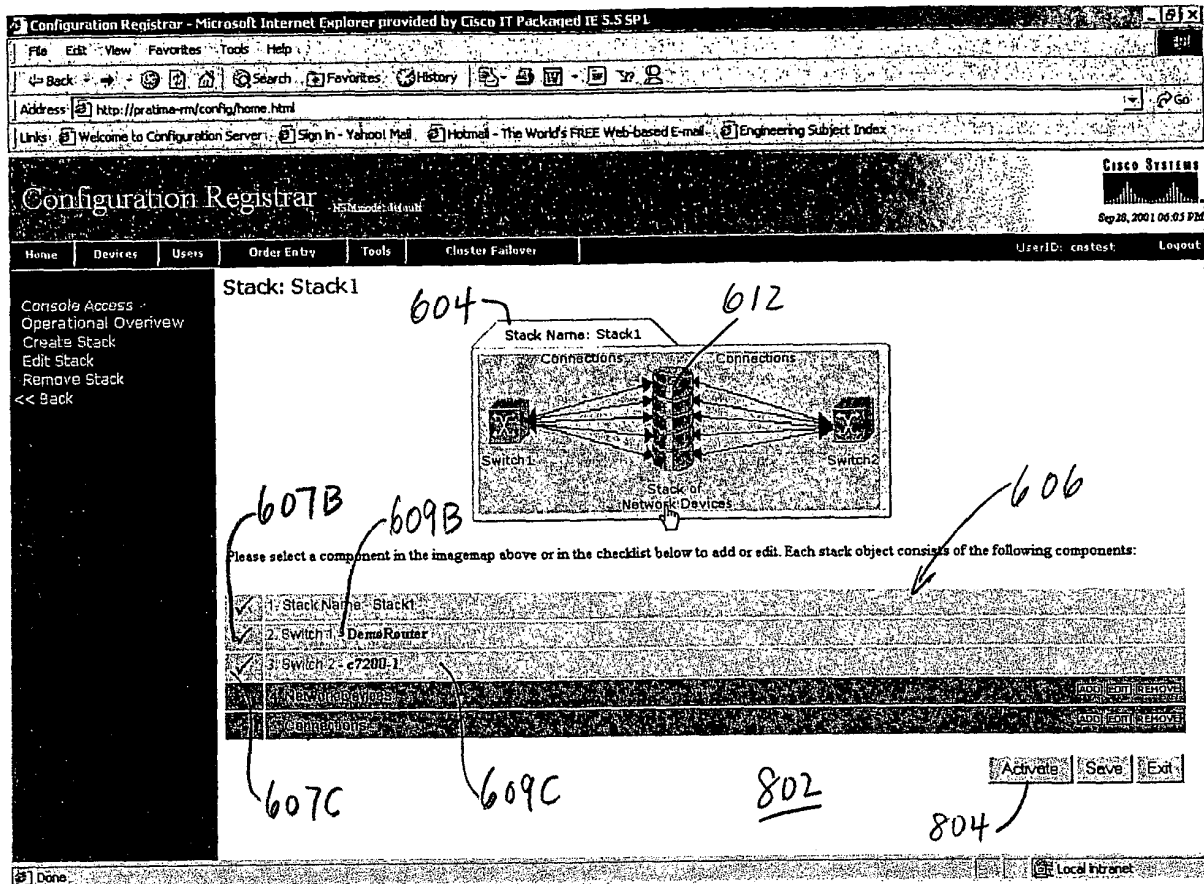
Docket No. 50325-0806

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Fig. 8



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stampler, et al.

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Fig. 9

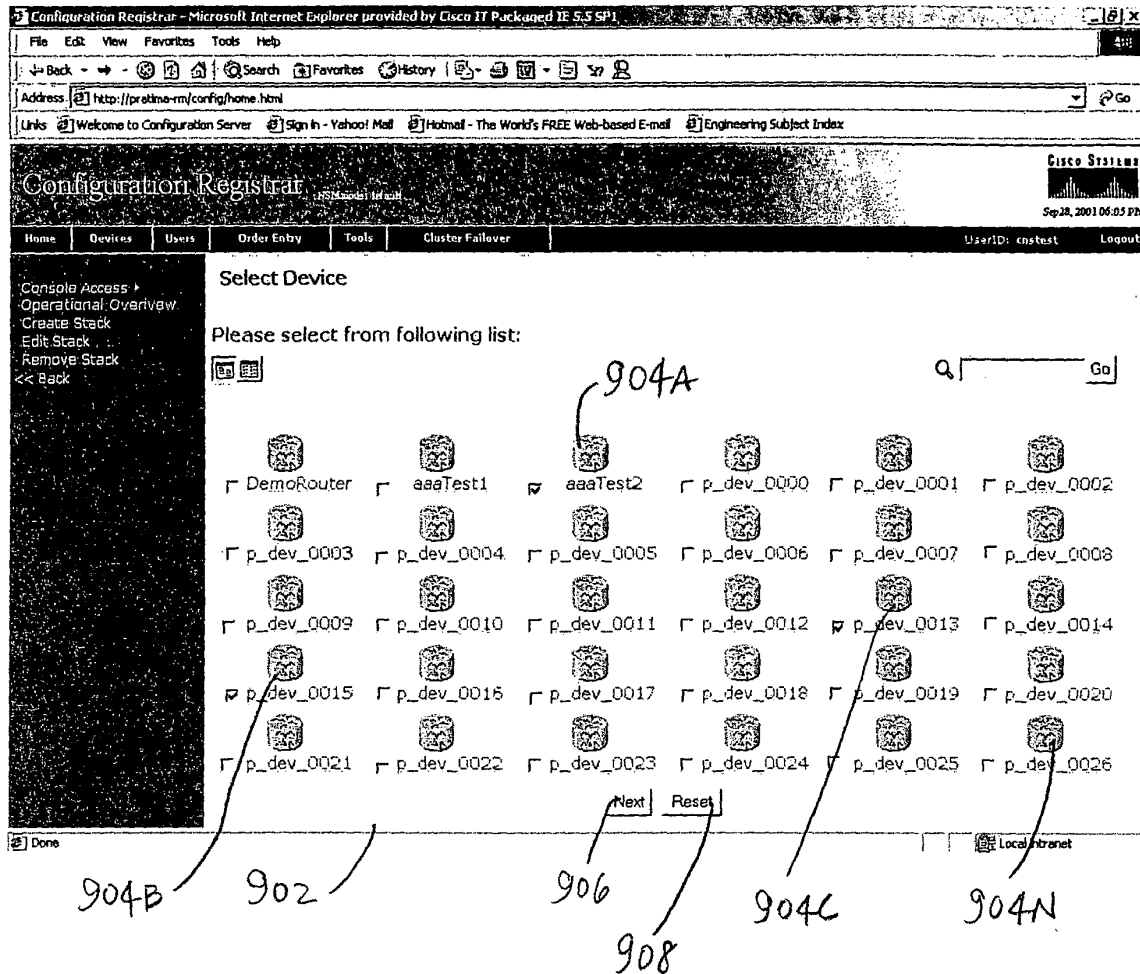


Fig. 10

1000

1002

Configuration Registrar - Microsoft Internet Explorer provided by Cisco IT Packaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://prtime-m/config/home.html

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Configuration Registrar

Home Devices Users Order Entry Tools Cluster Failover

UserID: cnstest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Add Selected Devices to Stack1

Template File Name for Configuring Switch 1: Template1.cfgtpl

Template File Name for Unconfiguring Switch 1: Template2.cfgtpl

Template File Name for Configuring Switch 2: Template3.cfgtpl

Template File Name for Unconfiguring Switch 2: Template4.cfgtpl

Device Name: DemoRouter

Switch 1

Interface Name: Option1: Option2: Option3:

Switch 2

Interface Name: Option1: Option2: Option3:

Telnet Information: Maximum Number of Connections Allowed:

Device Name: Test

Switch 1

Interface Name:

Switch 2

Interface Name:

1004

1006

1008

1010

1012A

1014A

1016A

1018

1014B

1016B

1020

1012B

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 11

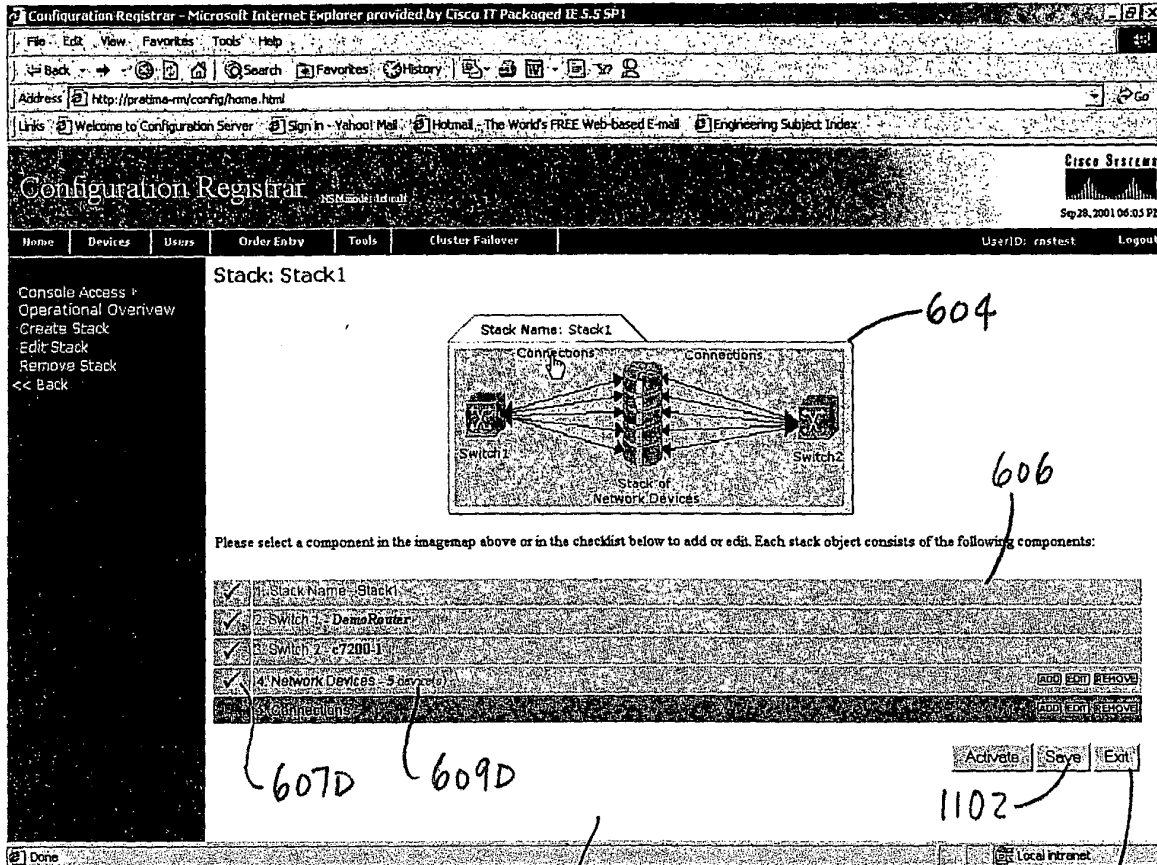


Fig. 12

Configuration Registrar - Microsoft Internet Explorer provided by Cisco IT Packaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History Home

Address http://prstima-rm/config/home.html

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Configuration Registrar

Home Devices Users Order Entry Tools Cluster Failover

UserID: cnctest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Add New Connection to Stack1

Connection Number: (required) 1202

Attribute 1: 1204

Attribute 2: 1206

Attribute 3: 1208

Attribute 4: 1210

Method of Connection Provisioning:
☒ Immediate
☐ Upon PVC Activation

Template File Name for Configuring Network Device: 1212 Template1.cfgtpl

Template File Name for Unconfiguring Network Device: 1214 Template2.cfgtpl

Template File Name for Configuring Switch 1: 1216 Template3.cfgtpl

Template File Name for Unconfiguring Switch 1: 1218 Template4.cfgtpl

Template File Name for Configuring Switch 2: 1220 Template5.cfgtpl

Template File Name for Unconfiguring Switch 2: 1222 Template6.cfgtpl

1200 1211

Ok Add Another Reset

1224 1226 1228

Local intranet

Fig. 13

Configuration Registrar - Microsoft Internet Explorer provided by Cisco IT Packaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History Print View Source

Address http://prattina-m/config/home.html

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Configuration Registrar NSM mode: default

Cisco Systems
Sep 28, 2001 06:05 PM

Home Devices Users Order Entry Tools Cluster Failover UserID: cactest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Stack: Stack1

Please select a component in the imagemap above or in the checklist below to add or edit. Each stack object consists of the following components:

<input checked="" type="checkbox"/>	Stack Name: Stack1	
<input checked="" type="checkbox"/>	Switch 1: Demo Router	
<input checked="" type="checkbox"/>	Switch 2: c7200-1	
<input checked="" type="checkbox"/>	Network Devices: 5 devices	<input type="button" value="Add"/> <input type="button" value="Edit"/> <input type="button" value="Remove"/>
<input checked="" type="checkbox"/>	Connections: 4 connections	<input type="button" value="Add"/> <input type="button" value="Edit"/> <input type="button" value="Remove"/>

607E 609E 602 619 804 1102

Activate Save Exit

Done Local Intranet

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

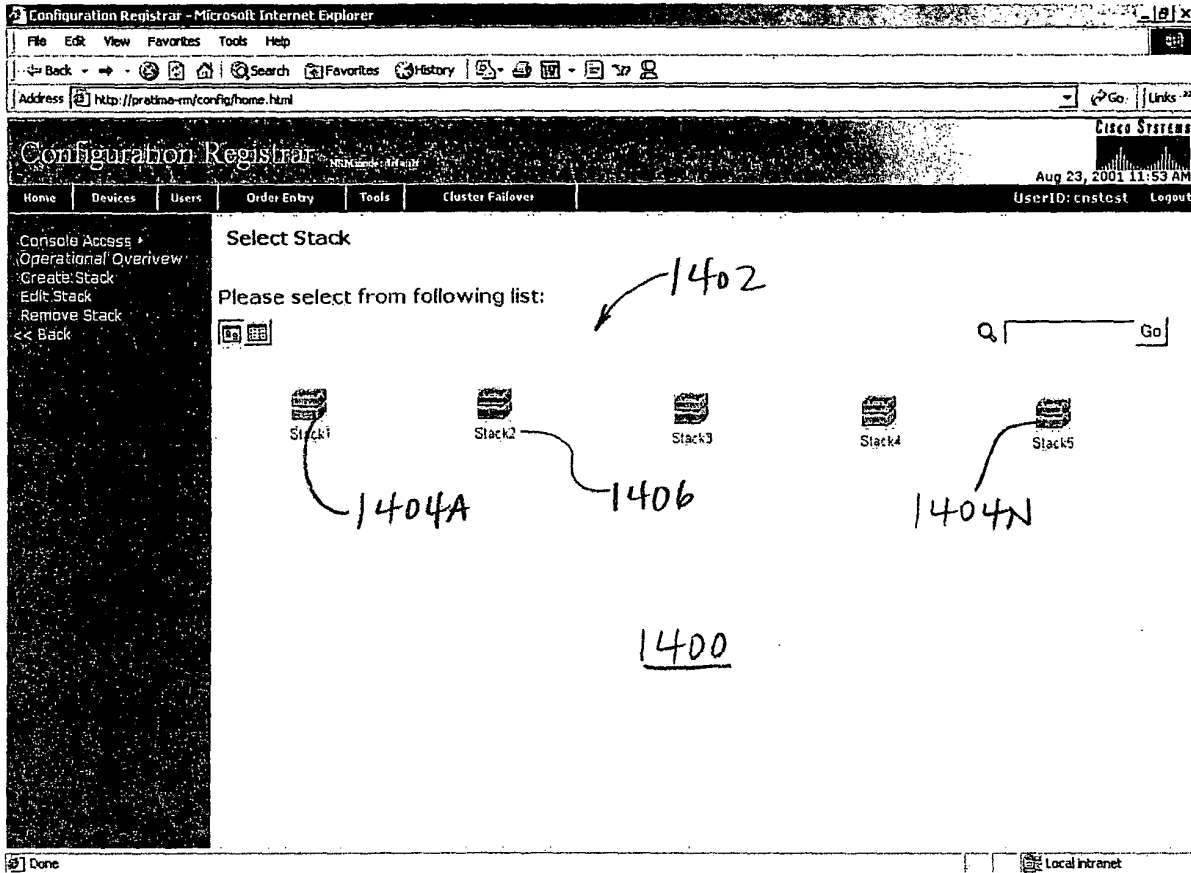
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Fig. 14



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 15

Configuration Registrar - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://prattia-my/config/home.html

Configuration Registrar prattia-my

Home Devices Users Order Entry Tools Cluster Failover

Aug 23, 2001 11:53 AM
UserID: cnstest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Stack: Stack1

Warning: This stack is currently inactive. To activate this stack, please press this button >> **Activate**

Stack Name: Stack1

Connections

Switch1

Stack of Network Devices

Switch2

Connections

Please select a component in the imagemap above or in the checklist below to add or edit. Each stack object consists of the following components:

<input checked="" type="checkbox"/>	1. Stack Name - Stack1
<input checked="" type="checkbox"/>	2. Switch - DemoRouter
<input checked="" type="checkbox"/>	3. Switch 2 - c7200-1
<input type="checkbox"/>	4. Network Device
<input type="checkbox"/>	5. Connections

Initialize **Save** **Exit**

Done Local Intranet

Handwritten annotations: 1502, 1504, 604, 1500, 1506

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

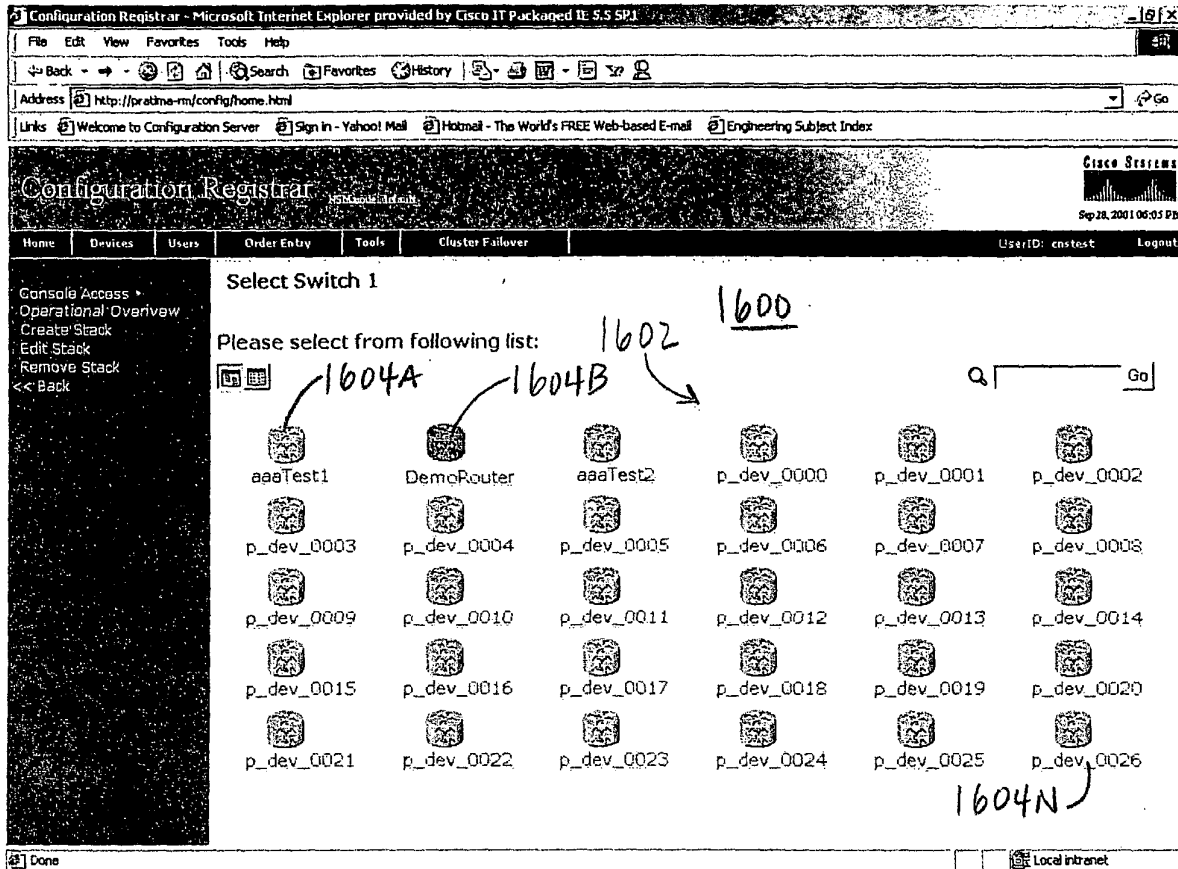
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Fig. 16



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

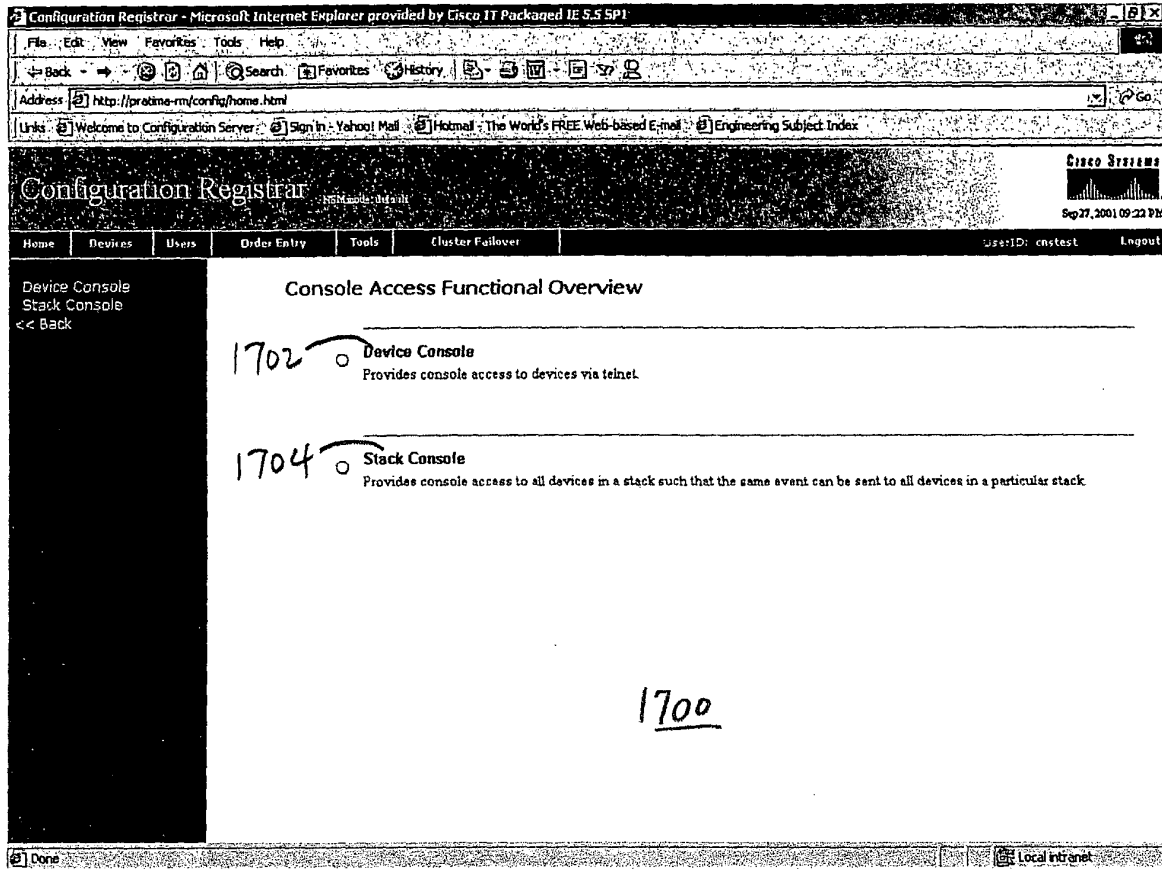
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Fig. 17



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

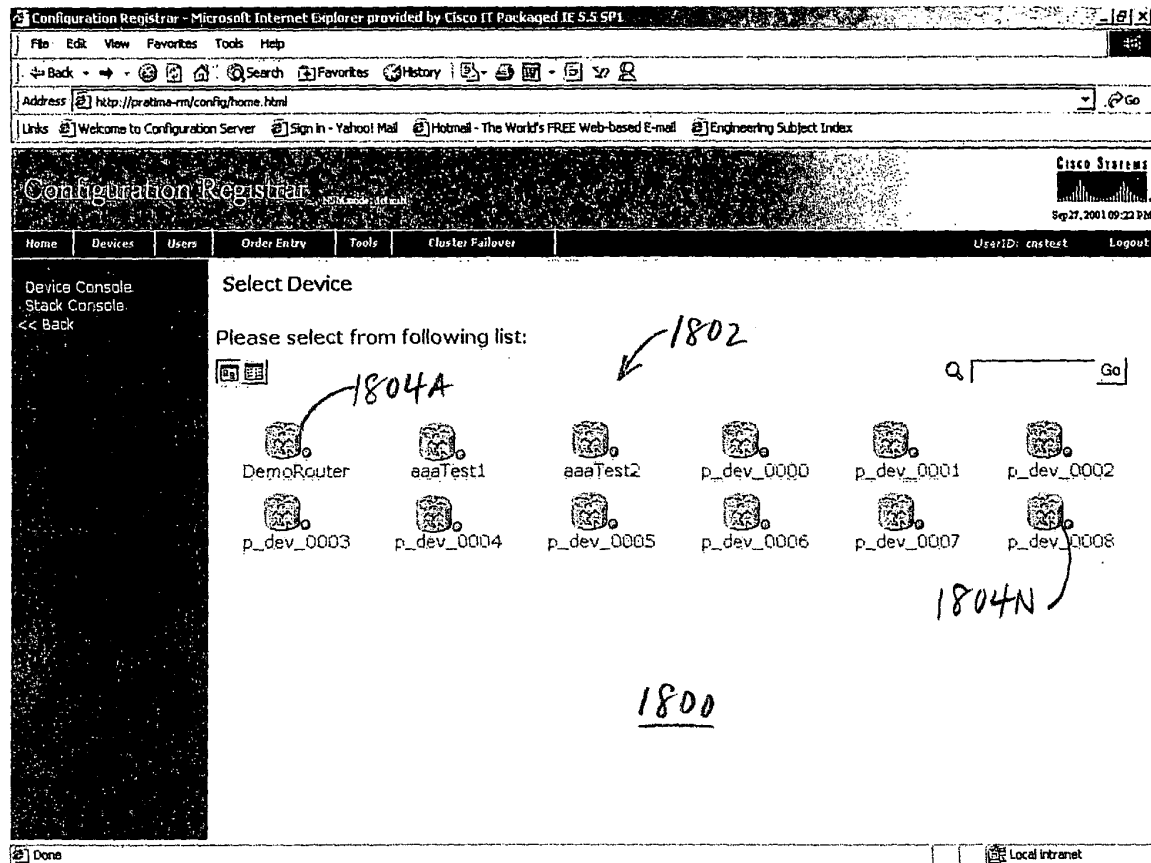
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Fig. 18



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 19

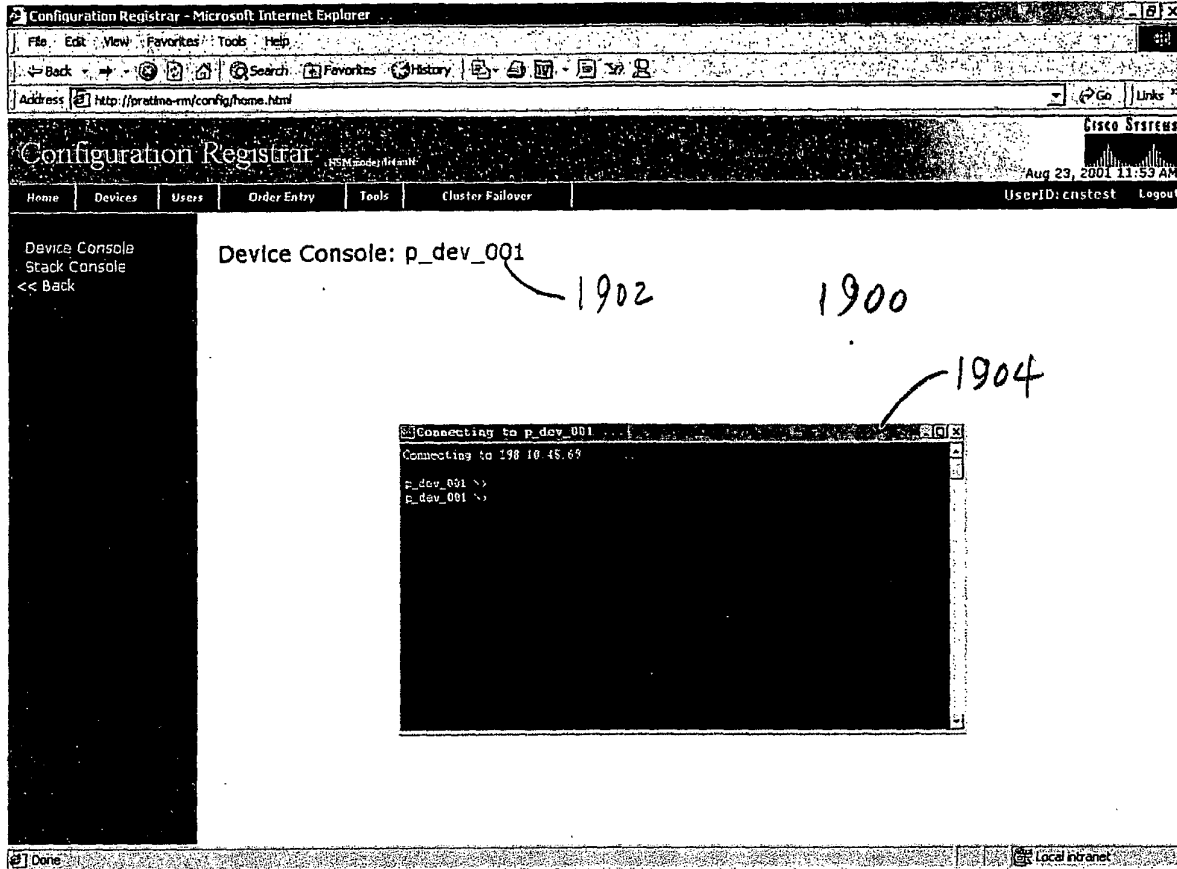
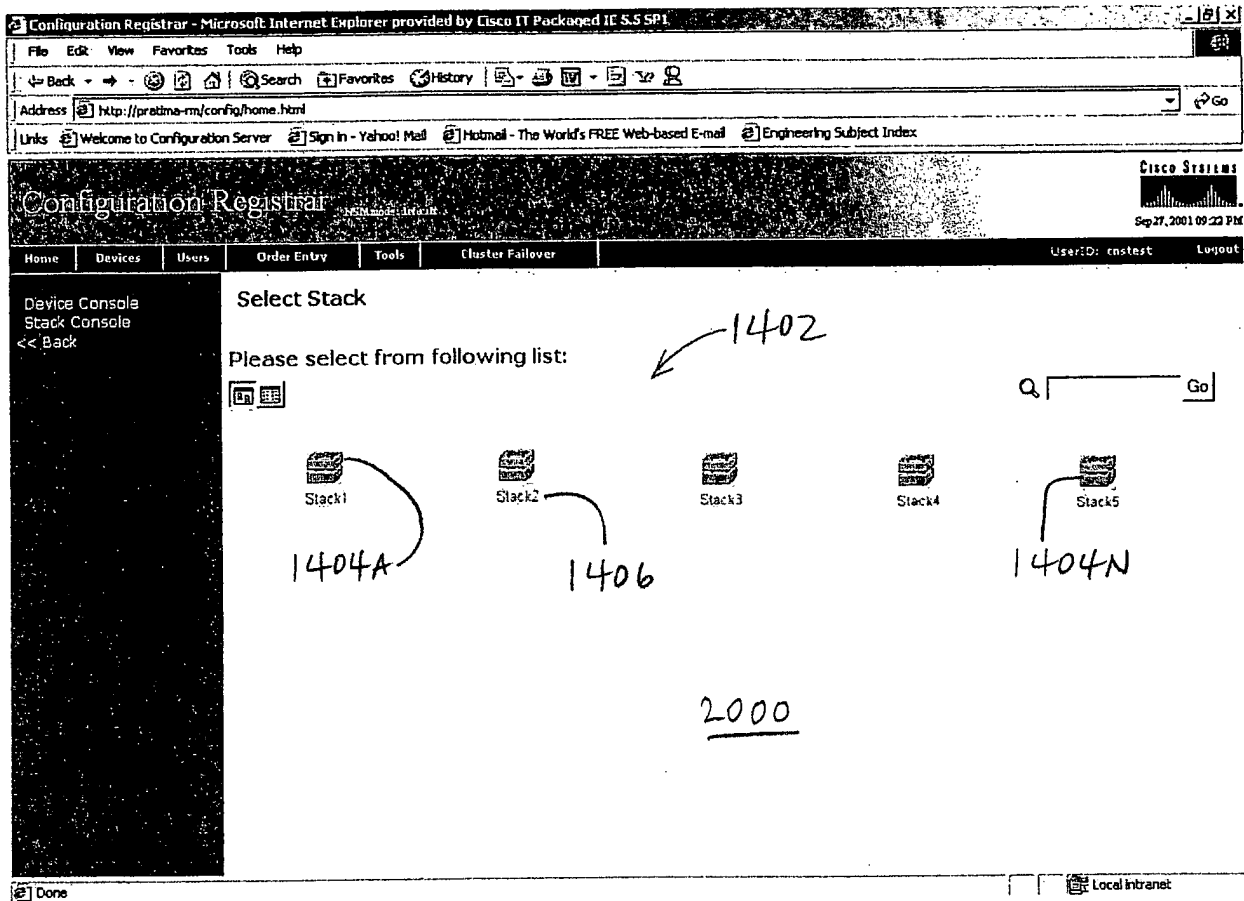


Fig. 20



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 21

Configuration Registrar - Microsoft Internet Explorer provided by Cisco IT Packaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://praline-mn/config/home.html Go

Links Welcome to Configuration Server Sign In - Yahoo! Mail Hoornet - The World's FREE Web-based E-mail Engineering Subject Index

Configuration Registrar

Home Devices Users Order Entry Tools Cluster Failover User ID: cnstest Logout

Device Console
Stack Console
<< Back

Console Access to Stack Stack2

Allows you to send the same command to all the device on this stack.

Event Log

Date/Time	Type	Subject name	Message
7/18/01 3:33:35 PM	[other]	cisco.cns.config.cslog	n/a
7/18/01 3:33:35 PM	[other]	cisco.cns.config.cslog	n/a
7/18/01 3:33:35 PM	[other]	cisco.cns.config.cslog	n/a
7/18/01 3:37:11 PM	[other]	cisco.cns.config.cslog	n/a
7/18/01 3:37:11 PM	[other]	cisco.cns.config.cslog	n/a
7/18/01 3:37:11 PM	[other]	cisco.cns.config.cslog	n/a

Subjects Reload

Command: Send

2112 Switch View of Event Log: Formatted

2102

2102A

2104 2106 2108 2110

2102N 2100

2114 2116

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 22

Configuration Registrar - Microsoft Internet Explorer provided by Cisco IT Packaged IE 5.5 SP1

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://pretime-rm/config/home.html Go

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Configuration Registrar

CISCO SYSTEMS
Sep 27, 2001 09:23 PM

Home Devices Users Order Entry Tools Cluster Failover User ID: cnstest Logout

Device Console
Stack Console
<< Back

Console Access to Stack Stack2

2112 Switch View of Event Log: Unformatted

Allows you to send the same command to all the device on this stack.

Execution log

```
9/19/01 11:54:45 PM - cisco.cns.exec.cmd.c7200-2
show running
9/19/01 11:54:46 PM - cisco.cns.exec.rsp.c7200-2
Building configuration...
Current configuration : 1296 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers
!
hostname c7200-2
!
enable password cisco
!
ip subnet-zero
!
```

2202

Command: Send 2100

Done: 2114 2116 Local Intranet

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

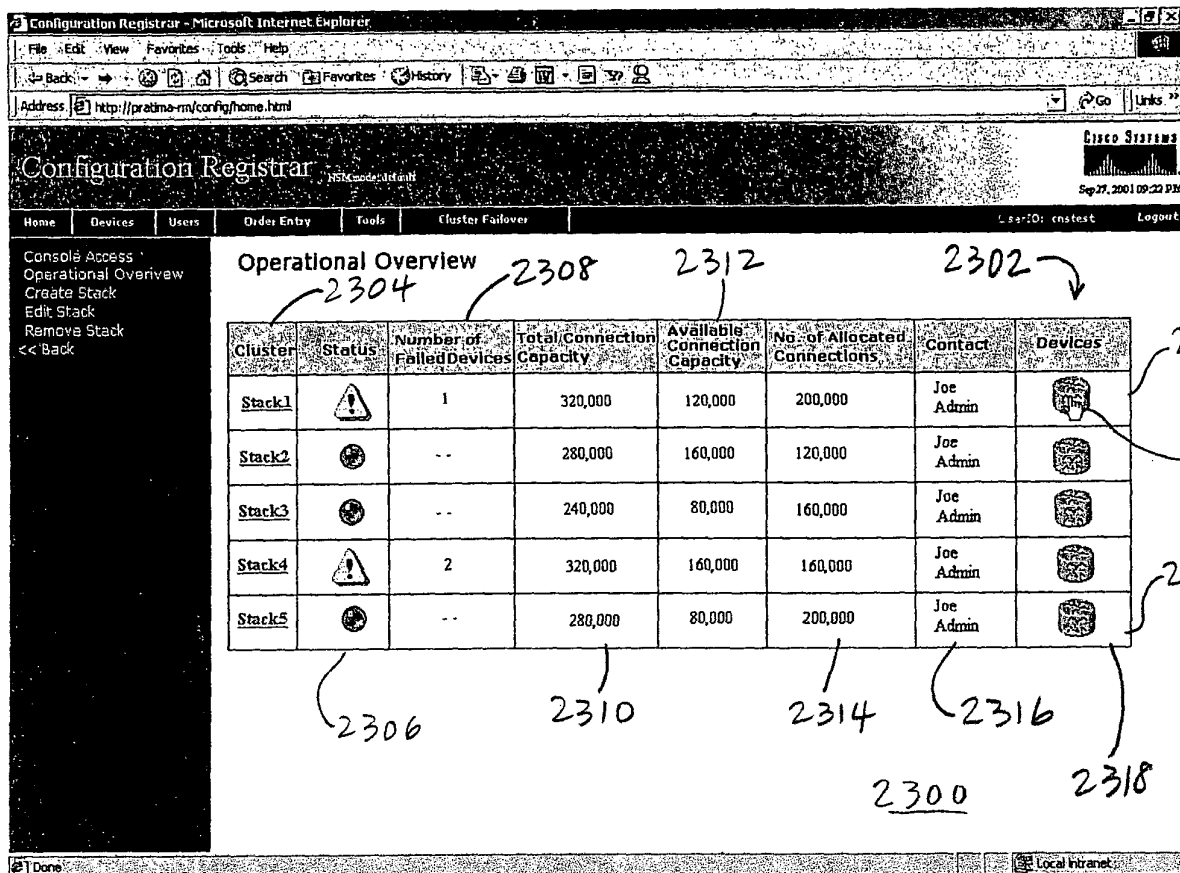
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Fig. 23



Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 24

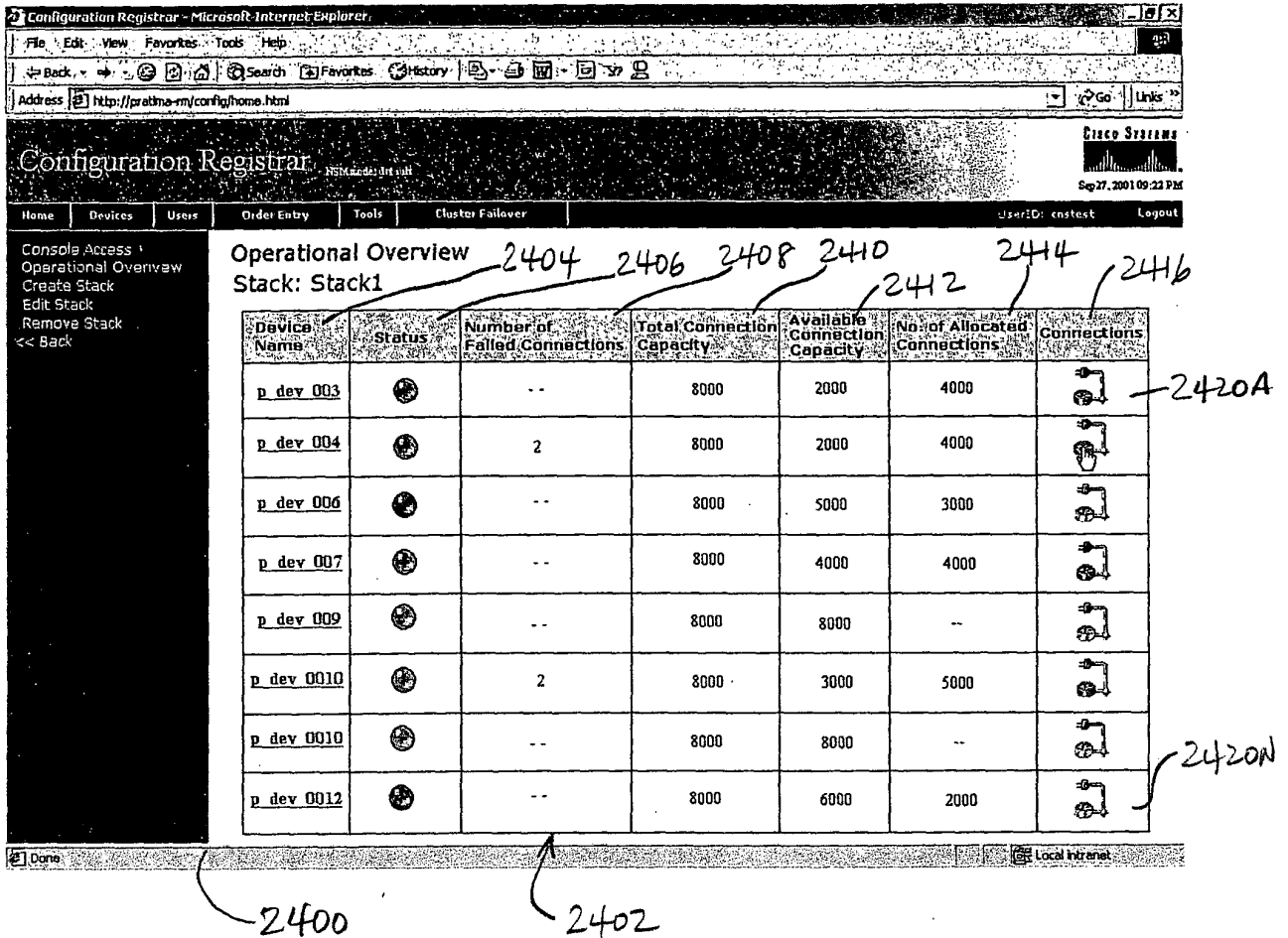


Fig. 25

Configuration Registrar - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://pralima-rn/config/home.html

Configuration Registrar

Home Devices Users Order Entry Tools Cluster Failover

UserID: rctest Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Operational Overview

Stack: Stack1 Switch1: p_dev_004

Failed Connections View

Connection Name	Attribute 1	Attribute 2	Attribute 3	Attribute 4	Status
Connection1					!
Connection2					!

2504 2506 2508 2510 2512 2516 2514 2502 2500

Done Local intranet

Title: AUTOMATIC RE-PROVISIONING OF NETWORK ELEMENTS
TO ADAPT TO FAILURES

Inventor(s): Arnold Stamler, et al.

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Fig. 26

Configuration Registrar - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Search Favorites History Print Home

Address http://pratima-rm/config/home.html Go Links

Configuration Registrar

Cisco Systems
Sep 27, 2001 09:22 PM

Home Devices Users Order Entry Tools Cluster Failover

UserID: cnsfnet Logout

Console Access
Operational Overview
Create Stack
Edit Stack
Remove Stack
<< Back

Stack: Stack1 Switch1: p_dev_004

Direct Console Access to this device.

2602

2600

2604

version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers
hostname DemoRouter
boot system flash c7200-is-mz
enable secret 5 \$1\$cMdl\$.e37TH540MWB2GW5gMOn3/
enable password cisco
ip subnet-zero
Interface FastEthernet0/0
no ip address
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
shutdown
half-duplex
interface Ethernet1/0
ip address 10.10.1.1 255.255.255.240
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
interface Ethernet1/1
no ip address

Done Local intranet

FIG. 27

